

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: "evans ken" <evans.ken@wgs-2.bwi.bls.com>
Subject: [1526] 12/20 FOX
Message-ID: <n1392832133.54529@wgs-2.bwi.bls.com>

I get a second chance at being the Fox this Wednesday. The last time, my local noise killed me and I couldn't hear a thing!. That appears to be solved, so here is the schedule:

12/21/95 UTC:

0200 to 0215 7110 khz +/- QRM

0215 to 0400 7040 khz +/- QRM

I'll call CQ Fox and listen above and below xmit freq. Forty has been so so here lately, but we are expecting quieter times this week.

72,
Ken
KJ4XR

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: kreinbd@ccgate.dl.nec.com (David Kreinberg)
Subject: [1506] 40M - WHAT GIVES?
Message-ID: <9511188193.AA819303218@smtpgw.ccgate.dl.nec.com>

Many thanks to Chuck and Bob Kmak (KC5RAS) in helping me with my EXP II 40M. I'm all tuned up, calibrated, and putting out about 3.25 watts.

However, my QSO total is still suprisingly low. Has 40 meters been in bad shape lately? I'm pretty sure my antenna is doing a fair job, as I can do a good job on 20M. But my 40M success has been mediocre, at best.

Are others having minimal luck on 40M in the last week or so? As Chuck mentioned, we had some lightning storms in Dallas area on 12/17, but even so I haven't had near the fun on 40M as I had hoped.

Let me know what you all have experienced on 40 lately!

72/73 de Dave KK5HA
QRP-L #25

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: rflight@VNET.IBM.COM
Subject: [1505] 80 meter washout.
Message-ID: <199512181228.HAA51991@nss2.CC.Lehigh.EDU>

Greetings gang;

What a bummer!... For awhile, I thought I found something Murphy wasn't particularly interested in, but he was all over 80 meters last night :-)

I had a busy week getting ready for our second net, and have (had) quite a story to tell. The short of it is that I managed to fabricate a sidecar for my IC-735 that gives me continuous tuning of my output power from roughly 100 microwatts to 10 watts or so. Thus I am now QRP compliant on demand:-)

At the completion of that task, I managed a contact in Charlotte with 100 milliwatts, another in Myrtle Beach at half a watt, and 1 watt QSO's w/ N1QLF in Ct two nights in a row. I was ready....

I spent Sunday doing yard work, and I swear I didn't go near the trees that support my antennas, but I was convinced I did something when I started hearing the locals at the noise floor during the net. Of course the floor has been raised significantly. It was frustratingly gratifying to hear the meager signal reports being handed out, but I fear that I lost all the recruits I may have been able to muster during the week. I hope they try again next week.

Clearly; I identified a need to brush up on my operating skill. I don't have a command of the network specific Q-signals, and lost it all after the third NCS station. I didn't know whether to recheck, or if my check-in with Warren was adequate. I only heard 6 or so stations before the bottom dropped out all together, and at times it sounded like a distant 10 meter pileup.

It was strange to hear the locals at such low SNR's with the Charleston station nearly the same. I guess we needed this to weed out the wimps among us. I think I was having fun, but it didn't have the same pizzazz of last week.

I think I'm beginning to remember why I prefer building over operating:-)

Fear not gang... you havn't lost me..... yet. I'll pretend I'm no longer have any interest in QRP, and just maybe I'll be one up on Murphy.

73 de N3G0 / Gary - Raleigh, NC

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Roy Boggs <rboggs@pcc-uky.campus.mci.net>
Subject: [1540] <Help Needed - SWL40-40 es Auttek RF Analyst>
Message-ID: <199512182022.PAA03822@pcc-uky-01.campus.mci.net>

This group is great! Thanks for the many responses to my help request (Frank, Chuck, Nick, Jess and others). A special thank you is order for Dave, NN1G for his personal attention. I hadn't expected him to send a response to my question! Classy touch!

To close this thread, WIND TOROIDS AS DAVE SPECIFIES!!! No need to measure inductance as confirmed by his posting here, my responses from you guys, and my own lil rig.

Finished soldering last night and aligned it this morning, and here is the verdict: Outstanding!!!! Just what I have been looking for; small for camping, rugged, receive is great, and cute as a button! Fired it up the moment I finished es answered CQ from K8BVJ/QRP, Jack, near Detroit. RRR!! My RST 579 (from here in KY) and band was not particularly hot. We chatted for 30 solid minutes and boy was it great! Jack said the sig was very nice es very stable. Filtering was perfect. I used a pair of Sony MDR-V100 headphones and had tons of audio. Sounds better than my Kenwood TS850 with any filter combination!!What could be better?!! Bravo Dave.

So much for loss: I sent my 1.5 watts thru a Heathkit 2060A turner, a balun, 250 ft. of ladderline into my 160 meter inv-vee up 100 ft. at apex.

Well , if this reads like a commercial I'm sorry, but that QSO on that lil rig put me on cloud nine!!! Not all that far you say:" but I just got thru building the darn thing!!!! Reminds me of the time I went into the woods and harvested a squirrel, cut hair off his tail, tied it on a homemade lead head jig, drove to the lake and promptly caught a keeper bass !!!! All in about 30 minutes!!

My other 'goose-bumps' contact was in Sept. on a W1FB Mighty-Mite (1 transistor) with WR10 , Stu in New Hampshire during a contest(?) es received a RST 559 with 35mW!! QRP is the caviar of amateur radio. Thanks guys.

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: KE3FL@delphi.com
Subject: [1512] Antennas, SWR, feed-ling length, & tuners

Message-ID: <01HYY8AWUI1E9D551J@delphi.com>

Folks-- (This is a small- tho' long- explanation of SWR & reflected power, to help beginners, enjoy. Any corrections & further clarifications by other are welcome!)

I saw some interesting notes on antennas, feedlines, and matching SWR with different lengths of coax. The information was interesting, but wrong. WRONG! The SWR of a system does NOT change when you change the length of the feed-line to the antenna. What changes is your viewing "angle". This WILL change what the rig PRECEIVES as a SWR, but in fact the SWR has NOT changed, if it stunk before it still stinks! AND WORST YET IS THAT THE SAME AMOUNT OF REFLECTED POWER IS STILL GETTING TO YOUR RIG!!!!!!!!!!!!!!!!!!!!

Some physics: Why is this? The SWR (Standing Wave Ratio) is the ratio of the forward (transmitted) energy to the reverse (reflected) energy. This is determined by the impedance mismatch at the FEED point of the feed-line to the antenna. NO AMOUNT OF FEED-LINE WILL CHANGE THIS FACT! The mis-match (if there is one) can NOT be changed by feed-line length. It can only BE changed by:

1. Changing the type of feed-line, ie. different impedance feed-line = different mis-match, or SWR. (We don't like to do this cause our rigs are now set for about 50 ohms.)
2. Changing the antenna length. This is the correct method to get maximum energy out the antenna anyway.

To measure the SWR at the feed-point of the antenna you must either take your reading at the feed-point or use a feed-line of length = v_f * multiple of $1/2$ the wavelegth of interest, where v_f is the velocity factor of the feed-line. Once you reach an SWR of 1:1 at the feed point by using 50 ohm feed-line and adjusting the antennas impedance to match the feed-line at the desired wavelength, you will find that changing the length of the feed-line (using the same type) will NOT change the SWR that the rig sees. (After all, if no energy is reflected from an impedance mismatch- ie there is NO mismatch- then the SWR can not change.)

REAL LIFE-- Now, while all this physics is interesting, AND CORRECT, it don't mean shit to a rig! Don't get on my case for this, I'll explain a bit further & give more WARNINGS. When you got to get on the air, and you can't match the antenna to the freq OR you wish to use one antenna for multiple frequencies (as I do every day) you CAN get on the air by FOOLING the rig into seeing a low impedance on the feed-line AND protecting it from the reflected energy of a mismatch. I know of only ONE way to do both of these and that is by using an

antenna tuner.

- * Use an antenna tuner. The BEST place for this guy is right at the feed point, THINK ABOUT IT, If the feedpoint is where the mismatch is, then it is the best place to correct it, THEN the SWR at the feed-line to tuner will be 1:1 and the tuner to antenna will be 1:1. (Most of us do NOT do this cuz it's hard to do. WE match the rig 50 ohm impedance to the tuner 50 ohm impedance and then the tuner adjusts to dump all that energy on the feed-line no matter what the present mismatch at the feed-point. AND IT PROTECTS OUT TRANSISTOR RIGS FROM REFLECTED ENERGY!

If and only if we use low loss feed-line - for the frequency of interest - will we get MOST of our energy out the antenna. Thus the advantage of 450 twin-lead. EXAMPLE: Let's use coax with a loss of 3dB at 144 MHz at 100 feet to our J-pole. We put 5 watts on the line, our HT, we lose 50% (3dB) going to the antenna, so the antenna gets 2.5 W, but the mismatch causes 50% reflection (pretty bad) so the antenna radiates a max of 1.25 watts, 1.25 is reflected back down the line, 50% of which is lost again as heat so the SWR meter only sees .63 W, which then gets reflected back up the line to the antenna which now sees about .31 W of which only .16 gets out. The total out is about $1.25 + .16 + .02 = 1.43$ W with the third reflection added.) RG-8, RG-58, & RG-8X are good for HF, but not very good for VHF & above. Look up the loss factors and do the numbers if you're concerned, I use RX-8X for everything from 160 meters up to 2 meters (where I suffer the loss, but it is still better than the rubber duck from inside the house. ALSO, I use a well matched J-pole at 2 meters!)

So, what does changing the coax length do?

- * We can change the length of the feed-line so that the swr-meter "sees" a different apparent SWR. What we are doing here is simply changing the angle of viewing. This means that as the energy comes back down the line it will be in/out of phase with the forward energy, when they hit just right we get a low point, a node, and that's what we are looking for by changing the length of the feed-line. Hit a node and the rig "sees" a low SWR & may be fooled into putting out full power. REMEMBER THE REFLECTED ENERGY IS STILL THERE!!!! And, for transistor rigs designed for 50 ohm impedance, and well matched antennas of LOW reflected energy this will still cause you to BLOW OUT YOUR FINALS!!!! This method used to work fine for TUBE finals which didn't care about reflected energy, but TRANSISTORS DO! The bottom line here for ANY rig is: fool the unit at your own risk. If it doesn't fold back and cause a decrease in output power to protect itself from the high level of reflected energy, YOU WILL BLOW your finals.

My advice is to use a tuner (at the antenna if you can, I can't but,

it's the best place) or in the shack if you must, like me.

DON'T play with feed-line lengths thinking you are changing the SWR
or the reflected energy levels! YOU ARE NOT!!!

Good-luck & 73 de KE3FL/Phil
Ham 3 yrs, Extra 2.5 yrs
BS & MA Physics 19 yrs.
;-)

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: George.Gingell@bbs.abs.net (George Gingell)
Subject: [1535] backpacker ii
Message-ID: <1995Dec18.144557.22204@abs.net>

Hi Scott,
I am not sure if I have your address correct or not, so I will cc this to the
QRP-L. I have an origional version, Unbuilt. Not sure if the info is the same
or not. I thing there were several changes which I may or may not have.
I also know a Ham Local to us who bought a Kit. He is N3JOQ and can be
reached
on the .955 machine any time. Ira is Handicapped and wheelchair confined.
He monitors several Rockville machines all day. You can also call me
on (301_572-6789) and leave a message any time.
QRP DX TU (C)1986 Danny Gingell,K3TKS@bbs.abs.net

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George Gingell, user of the UniBoard System @ abs.net
E-Mail: George.Gingell@bbs.abs.net
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Dan Reynolds <bcdlr@slip.net>
Subject: [1499] Benson email address
Message-ID: <199512180348.TAA01846@slip-1.slip.net>

Could someone email me Dave Benson's email address, I would like to get
current kit listing/prices. TNX
Peace+
Dan Reynolds, bcdlr@slip.net, KB9JL0

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Jeff Gold <JMG@tntech.edu>
Subject: [1515] Cascade 20 mtr band module
Message-ID: <01HYY6M9CHI9D52G6@tntech.edu>

HI,

I would like to order the silver mics for my 80 meter band module. Thought I better get hold of the values that I have NPOs in for just in case and don't have my docs here. Anyone have with them the values for the caps in the 20 mtr module?

thanks

Jeff, AC4HF

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Jeff Gold <JMG@tntech.edu>
Subject: [1508] Cascade final
Message-ID: <01HYY2I8PN7M9D50ZR@tntech.edu>

guys,

I have a couple of extra 2SC1969 final transistors. I think they put out about 12 watts.. don't really remember. Anyone have any idea whether they might give me some more power on the Cascade, and if so, what mods would be needed? I would like to get about 10 watts out on 20 meters if possible. From my experience, 10 watts on SSB seems to be about as effective as 2-3 on CW.

also found the problem with the antenna on the receiver test. I had pulled the lead of L3 on the band module down too far and there was no path from pin 1->pin5 on the band module. Pulled the leg out of the board.. cleaned up the insulation, rechecked the inductance and remounted. The receiver worked great this am, when I tested it before work.

73

Jeff, AC4HF

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Jeff Gold <JMG@tntech.edu>

Subject: [1527] Cascade Transistors
Message-ID: <01HYA4MW4QQ9D52G6@tntech.edu>

guys,

just put in my order with Mouser for the silver mic caps.

they didn't have cross reference on the 2N7000 or the J310. I need one of each to finish the kit.. any ideas?

still wondering about using the 102 for the J310 and a 2N2222 for the 2N7000

thanks

Jeff

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Paul Harden <pharden@aoc.nrao.edu>
Subject: [1552] DATA SHEET: COAX (updated)
Message-ID: <199512182314.QAA09039@zia.aoc.nrao.edu>

I posted a data sheet a week ago on a few coax types. Got chewed out (errr, I mean received a few suggestions) to include a few more flavors. So redid the data sheet and reformatted it for (hopefully) easier reading. Seriously, I appreciate the feedback. If you're gonna spend the time to key this stuff in, might as well be as useful as possible.
Paul NA5N

----- cut here -----

DATA SHEET de NA5N: COAXIAL CABLE SPECIFICATIONS (Major types)

COAX TYPE	CONDUCTOR Strands dia.	INSULATION Matl dia.	SHIELD Cover	JACKET Matl dia.	VF	pF/ ft.	Atten/ 100ft.
50-OHM COAX:.....							50-OHM COAX
RG-8	7/19 .108	FP .285	97%	PE .405	.78	26	0.5dB
RG-8*	7/19 .108	FP .285	*96%	PE .480	.78	26	0.5
RG-8A	7/21 .085	PE .285	97%	NC .405	.66	30	0.5
RG-9*	7/21 .086	PE .280	*96%	NC .420	.66	30	0.6
RG-58	Solid .032	PE .116	95%	PV .193	.66	29	1.2
RG-58A	19/33 .035	PE .116	96%	PV .195	.66	31	1.4
RG-58A*	7/28 .037	PE .114	*96%	PV .240	.66	31	1.5
RG-58C	19/33 .035	PE .116	96%	NC .195	.66	31	1.4

RG-141#	Solid	.037	TF	.116	#96%	FG	.190	.70	29	1.1
RG-174	7/34	.019	PE	.060	88%	PV	.101	.66	31	3.3
RG-223#	Solid	.035	PE	.116	#*97%	NC	.212	.66	31	1.2
9913	Solid	.108	FP	.285	100%	PV	.405	.84	24	0.4dB
72-OHM COAX:.....										72-OHM COAX
RG-11	Solid	.064	FP	.285	95%	PV	.405	.78	17	0.4dB
RG-11A	7/26	.048	PE	.285	97%	PV	.405	.66	21	0.7
RG-59	Solid	.023	PE	.146	95%	PV	.146	.66	21	1.1
RG-59*	Solid	.032	FP	.143	*96%	PE	.315	.78	17	1.0
RG-59B	Solid	.023	PE	.146	95%	NC	.242	.66	21	1.1dB

*=Double shielded Coax #=Silver plated center conductor and shield

1. Center conductor is copper or tinned copper except indicated by #.
2. Insulation dielectric codes:
PE: polyethylene; FP: foam polyethylene; TF: high temp. teflon
3. Jacket material codes:
PE: polyethylene; PV: PVC; NC: non-contaminating; FG: fiberglass
4. VF=velocity factor of coax (.66=66%)
5. pF/Ft. = capacitance (in pF) per foot.
6. Atten/100 ft. = coax attenuation per 100 feet AT 10MHZ.
7. Diameters for center conductor, insulation and jacket are used for selecting proper connector (BNC, PL-259, etc.)

The physical length of coax is:

Coax length (ft.) = 948VF/f	one wavelength
= 246VF/f	quarter wavelength

EXAMPLE: A quarter wavelength of RG-58C/U (VF=.66) at 7.040 MHz
would be 23.06 feet in length.

GL de Paul NA5N
CQC#133 QRP-L #38

This data sheet submitted to QRP-L subscribers; it may be used by others (including QRP journals) with proper credit. A QRP Data Book containing these data sheets, in more detail, is "in the works."
Stay tuned for more details.

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: kub@upl.com (Steve Kubisch)

Hi,
It seems the noise on the bands and the weak signals are making listening to the bands much more tedious lately. I'm considering buying a DSP unit after Xmas and would like some feedback from the list. How much benefit are those of you who have them getting from them? Which brands and models give the most bang for the \$. Any input would be appreciated.

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: George.Gingell@bbs.abs.net (George Gingell)
Subject: [1534] FOX
Message-ID: <1995Dec18.144011.22204@abs.net>

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Where is that flea

collar?

Graphics by
Maryland Milliwatt QRP Club
QRP DX TU (c) 1986, G. Danny Gingell, K3TKS

--

George Gingell, user of the UniBoard System @ abs.net
E-Mail: George.Gingell@bbs.abs.net
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: km@PACT.ORG.PE (Kris Merschrod)
Subject: [1503] friendly not policy
Message-ID: <m0tReOF-0000EOC@rcp.net.pe>

Gosh, Chuck,

I'm glad that you pointed that out otherwise all sorts of Q-Dope and Toxic waste could flow your way.

QSL,

Kris

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Jeff Gold <JMG@tntech.edu>
Subject: [1544] J310 cross ref help
Message-ID: <01HYYGDFIPEA9D59UF@tntech.edu>

Guys,

HELP!!

found a cross reference for the 2N7000.

I only need one more part for my Cascade. .the replacement for the J310. anyone have any idea of any of the specs, or a possible replacement.. is it a FET, MOSFET, JFET?

I need to find the transistor for Q12 (or maybe Q16)

thanks

Jeff

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: bcutter@teal.csn.net (Bob Cutter)
Subject: [1528] KC-1 to Explorer II
Message-ID: <199512181800.LAA12563@lynx.csn.net>

Has anyone mated the KC-1 keyer to the new Explorer II?

72, Bob KI0G
END

Bob Cutter,Glenwood Springs, CO

KI0G

bcutter@teal.csn.net

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: aa7qy@primenet.com (Roger Hightower)
Subject: [1546] Logo - decals, patches, etc (More)
Message-ID: <199512182135.0AA18316@usr3.primenet.com>

Hi gang. I sent a floppy with the logo in pcx format to Old West Graphics and asked for a firm estimate for the following:

- 1 1/2" logo sticker for rigs
- 3-4" sticker for inside windows
- 8-10" iron-on for jackets, tee-shirts, etc. (less expensive than the entire tee-shirt)

Hope to hear from them soon.

Checking on patches locally. Depending on the setup charge, I'll post info on that when I get it.

If you are curious abt the logo that was voted on, it's at the qrp-1 homepage....the aa7qy one.

I don't want to get into distribution of any of this. Jim at Old West stocks a number of club/organization logos, and I've asked him to set it up so individuals order direct. Will let you all know how it goes.

Hope everyone has a very Merry Christmas and that Santa has a bag full of qrp goodies.

72/73, de Roger

--

Roger Hightower, AA7QY Mesa, AZ (DM43CJ) aa7qy@primenet.com
QRP-L #62 NE-QRP 383 NorCal 1099 CQC 176 QRP-ARCI 8946 G-QRP 9081

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: George.Gingell@bbs.abs.net (George Gingell)
Subject: [1536] LOGO VOTE
Message-ID: <1995Dec18.145232.22204@abs.net>

I agree with WB8ZJL, The snipe is a good choice, but the Fox is Best.
Heck, Even Walt Disney Liked them...
They are Quick, Smart, and darn near invisible...
Besides they are cute..
I suppose we can all pick our own personal logos like days of old.
Some put em on airplanes and some on Shields.

Some put them on rigs and some on cars. That reminds me, Those who live in the Maryland Area can GET a Chrome Plated FOX from "Fox Chevrolet" No connection.... Usual disclaimers apply. Warning, Local police have been alerted to watch for outof state Fox Nappers...
QRP DX TU (C)1986 Danny Gingell,K3TKS@bbs.abs.net

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George Gingell, user of the UniBoard System @ abs.net
E-Mail: George.Gingell@bbs.abs.net
The WB3FFV Amateur Radio BBS - Located in Baltimore, Maryland USA
Supporting the Amateur Radio Hobby, and TCP/IP InterNetworking

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: garland@MPS.OHIO-STATE.EDU (James C. Garland)
Subject: [1533] Mod for the ARK-40 Transceiver
Message-ID: <01HYYEWRX3E28WWE0M@MPS.OHIO-STATE.EDU>

Hi Everyone,

I've recently modified my ARK-40 40meter cw transceiver, and want to see if anyone is interested in the details. The ARK-40, by S&S engineering, is a super rig, but uses four pushbutton BCD switches to set the synthesizer frequency, an inconvenience that detracts from the little rig's other great qualities. My modification replaces the BCD switches with an LCD character display, an optical shaft encoder, and a BS-2 "Stamp" microcontroller.

Upon power-up, the rig displays a startup msg on the 16 character LCD display for 3 seconds, and then the display shows a "bandsread dial", centered at 7040 (the qrp frequency.) Turning the tuning knob causes the dial display to scoll in 1kHz steps (32kHz/revolution), with the operating frequency centered in the dial. A display of 7045kHz, for instance, looks like this: ". . 4 0 . . . | 5 0 . ." This quasi-analog dial is used for tuning around the band quickly. Once a desired frequency is found, then the tuning dial is pressed (a momentary switch), and the bandsread dial is replaced by a digital readout, calibrated to nearest 100Hz, e.g., "7045.3". The tuning rate is also changed to 3.2kHz/revolution (100Hz steps). Pressing the tuning dial repeatedly toggles between the two modes.

The modification is expensive (about \$120), although it uses only a handful of components.. The LCD display is the "Backpack" by Scott Edwards Electronics, which communicates serially with the BS-2 microcontroller. The BS-2 is programmed in Basic, and and it took me months to refine the code. I made up a small 2"x3" printed circuit board to hold the components, and the ribbon cable from the ARK-40 plugs into it. No electrical modifications to the original ARK-40 are required, although it is necessary to redo the front panel and move the speaker location to the inside top cover.

I've just finished the modification and find it has made an enormous improvement in usability. The rig is incredibly fun to use now, and I've encountered no birdies or other problems. If you have an ARK 40 and are

interested, drop me a line. I'm happy to give out the BS-2 Basic source code and CAD drawings for the circuit board. (I had ten of the the PC boards made by a prototype house (minimum order), and would love to have someone split the cost with me!) (The mod should also work with the other ARK-series transceivers.) I'm thinking about writing an article on the mod for one of the ham mags, not because there are thousands of frustrated ARK-40 owners in the world, but because there might be general interest from hams interested in using shaft encoders and LCD displays as controllers for synthesizers and VFOs. Before I write up anything formally, however, I'd like a few other folks to try out the circuit.

73,
Jim W8ZR

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Larry East <LVE1@inel.gov>
Subject: [1510] Need OHR's Phone Number
Message-ID: <9512181517.AA02530@garnet.inel.gov>

I forgot to bring Oak Hill Research's phone number with me this morning and I need to call them. If someone could email it to me, it would be greatly appreciated.

72, Larry W1HUE/7

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [1517] Ooops!!
Message-ID: <199512181437.0AA26088@chuck.dallas.sgi.com>

Gang,

Forgot yesterday to thank all the members of this group that took the time to write to David Summers at ARRL about the 7.040 and RTTY conflict. It did make the news in QST.

Also, thanks to all who are sending snow that I asked for. It will arrive tonight. Hopefully the QRN will die off now. :-)

Listen 10.106 and up to 10.120 for the Explorer II.
Will try it out until the band dies tonight.

dit dit

--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: ljones@why.net (ljones)
Subject: [1557] Owl Code??
Message-ID: <19951219004334242.AAA259@dal56.why.net>

Greetings Ray...

I think you had better lay off those strange mushrooms while you walk in
the forest!!
72/73

dee-it dee-it (Texas Accent)

Larry n5osg

Larry Jones N5OSG NorTex QRP-ARCI G-QRP NorCal MI-QRP NE-QRP
4028 Random Circle
Garland Tx 75043-3250

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Jeff Gold <JMG@tntech.edu>
Subject: [1509] Parts ordering
Message-ID: <01HYY3P9F40I9D52G6@tntech.edu>

I would like to put in a small order for the silver mics and some
2n7000 and J310 transistors for my Cascade.. where is the best
place that doesn't charge extra for small orders?

thanks

Jeff, AC4HF

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: drichff@nando.net
Subject: [1532] Radios
Message-ID: <9512181847.AA06109@nando.net.nando.net>

I know that most of the conversation on here is about qrp kits and homebuilt equip. Has anyone ever tried the military handheld or backpack radios that operate in the 30-50mhz range either from the 1950's or the 60's-70's? I would be interested in hearing your success in using any of these radios and the source/availability for these radios

Dwayne

drichff@nando.net

Firefighter/EMT Fire Patch Trader Carolinas Fire Page (Disp.701)
Appalachian Trail Hiker (Trailname "Backdraft")
Ham Operator KC4ADW
"Life is also about the Journey not just the destination"
" Strive for Perfection, Settle for Excellence"

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: "Arjen Raateland, SYKE/YV, puh. 90-4030 0457" <Arjen.Raateland@vyh.fi>
Subject: [1502] Sierra from Wilderness?
Message-ID: <01HYY9P1YDEA8Y6R3Z@vyh21.vyh.fi>

Hi gang,

Does anybody have information about when Wilderness will start shipping their first run of the Sierra?

Arjen, OH2ZAZ

Arjen Raateland
Suomen Ymp ristökeskus / YV
--... ..-- ------ ---.. ..- ---..
Finnish Environment Agency, Helsinki, Finland
SAS Support
EMAIL: Arjen.Raateland@vyh.fi
tel. +358 0 4030 0457
fax +358 0 4030 0490
-.-. -.-

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: ae4ic@nr.infi.net (BOB KELLOGG)
Subject: [1553] Sierra Lives!
Message-ID: <199512182349.SAA28099@moe.infi.net>

Thanks guys, for all of your help. Wayne B. suggested a line of reasoning which resulted in the repair. What a great design! Nothing was blown. Many thanks for all of your cards and letters. A problem like this really separates the men from the boys, and now I know how many real men there are in this group!

Have a great Holiday season!

73,
Bob Kellogg, AE4IC

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: garland@MPS.OHIO-STATE.EDU (James C. Garland)
Subject: [1525] Subscribe
Message-ID: <01HYYBCLZ5UC8WWE0M@MPS.OHIO-STATE.EDU>

I'd like to subscribe to the group. Thanks.

Jim W8ZR

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Bruce Robertson <brucerob@epas.utoronto.ca>
Subject: [1531] SWL mod. kit
Message-ID: <Pine.SGI.3.91.951218132603.11436A-100000@blues.epas.utoronto.ca>

What's a better deal than a Small Wonder Labs tranceiver kit? How about the SWL offical 3w upgrade kit! Mine just arrived, and it looks like great fun. Your original 40-40 series radios put out 1w of radio in high style. For a bit more juice, Dave has devised a way to use one of those MMIC thingy in his xmit bandpass filter, thereby giving the final more drive. You tack the mod to the underside of the pcb.

I just opened my kit and not only had Dave included the values for the new components in the filter and in the final filter, he included the caps and *the wire* to rewind the coils with. Really! I love modifying my 40-40, if only to wind up concluding that Dave had done it best to start

with, but this is an official mod - groovy. (By the way, the new generation of NNIG rigs have this feature built in.)

So why is this such a good deal? Total price:

\$5 U.S., shipping included! That's about \$1 for each db gain in output power! (yer Alphas cost a but more than that, eh?)

If you have a 40-40, and especially if you have a 30-40, you gotta have the mod! I'll let you guys know how it goes, or you can talk to me on 40m (I'll be the one with the mighty signal).

Thanks to Dave for supporting his customers in this kind manner.

72, VE3UWL

Bruce G. Robertson Dept. of Classics, U. of T.

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: PDouglas12@aol.com
Subject: [1545] SWL upgrade
Message-ID: <951218163034_93681752@mail02.mail.aol.com>

Thanks to Bruce Robinson for the post on the power increase upgrade for the SWL series. Anyone know if there is an upgrade for the 80-40?

Preston WJ2V

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: scalawag@ids.net
Subject: [1507] Thanks
Message-ID: <199512181417.JAA32911@nss2.CC.Lehigh.EDU>

Gang,

I would like to thank publically Nick Franco, KF2PH, for your thoughtfulness in posting the Christmas card to the group on the WWW.

What a nice thought!

I recommend to any who have access to the Web to take a look. Even my old, slow set-up managed to open it only after a couple of minutes.

Well worth the wait.

Again, thanks.

Happy holidays to all.

Lee, W5TEH

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: dgf@netcom.com (David Feldman)
Subject: [1519] Tokyo Hy Power HT-750 RX question
Message-ID: <199512181643.IAA16758@netcom9.netcom.com>

I've been playing with a newly-arrived (but used) HT-750. I noticed that the RX sensitivity is somewhat diminished when running off 9.6V (the 8 internal NiCad cells) vs. when running off an external 12V supply. I talked to WB5IRI (who wrote the QST article 10/94) and he confirmed the same behavior with his unit. Does anyone have any experience with the rig, and specifically with this sensitivity issue? I gather my unit's not defective, but I'd sure like to know if there is a modification or update (and it isn't feasible to get the rig serviced as the manufacturer is in Japan). In the meantime, I'm using Ray-O-Vac alkaline renewal cells which work fine but can't be recharged in place.

73 Dave WB0GAZ dgf@netcom.com

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: wayneb@on-ramp.ior.com (wayne barnhart)
Subject: [1541] torrids
Message-ID: <m0tRm5X-000RuNC@on-ramp.ior.com>

>From a previous post

I would not depend on the number of turns alone to determine the inductance. I found that when I was building the Cascade that the spacing was also very critical to the value. I found that if I got the inductance close that by squishing and expanding the spacing on the turns on the coils that I could get the value very close.

I saw several notes of this vain...how do you go about measuring the inductance? Is it a fancy (make that expensive) piece of test gear? You feeding it with a frequency generator and a known capacitance? Inquireing minds want to know, even if they cant spell...

Wayne Barnhart WB7WHI
Spokane, Wa.

Dirt is good!

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: truck@epix.net
Subject: [1524] unsubscribe
Message-ID: <Chameleon.951215052432.truck@epix.net>

unsubscribe

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Larry East <LVE1@inel.gov>
Subject: [1522] Using Autek RF Analysist
Message-ID: <9512181658.AA05076@garnet.inel.gov>

Most of you smart folks probably already know this, but just in case someone hasn't thought of it...

When using this neat little gadget to measure C and L values, remember that what it is REALLY measuring is impedance and then converting to C or L based on the mode selected. For an accurate reading, you MUST subtract off the impedance of the test leads; simply short them together and read the equivalent C or L value at the frequency of interest.

72, Larry W1HUE/7

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Clark Savage Turner WA3JPG <turner@safety.ICS.UCI.EDU>
Subject: [1556] Want Ten Tec model 220 filter
Message-ID: <7292.819334258@safety.ics.uci.edu>

for my Argonaut. It is the 9 MHz, 8 pole, 2.4 KHz bandwidth filter. They still sell them, but would like to find one used. Would consider any other good quality 9 MHz 8 (or more) pole crystal filter with 2.4 KHz - 3./1 KHz bandwidth for SSB. Want to improve the selectivity in my Argonaut.

Clark
WA3JPG

P.S. Anyone ever put two 4 pole crystal filters in series? Does this do equally well? I have an old Ten Tec 4 pole SSB filter from an Argosy or Corsair and could stick that in there if it would help.

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: km@PACT.ORG.PE (Kris Merschrod)
Subject: [1504] Which finger Tony?
Message-ID: <m0tRe0E-0000EMC@rcp.net.pe>

Tony,

I never thought twice about that question. I use the index and middle finger to send. Index is for dashes and middle finger is for dots, but choice is yours. If you try using the thumb it is too close spaced, plus the thumb helps hold the mouse in hand.

Kris

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: wmcshan@REX.RE.uokhsc.edu (Mike McShan)
Subject: [1516] Yaesu FT747 and a can o'worms
Message-ID: <9512181621.AA09911@rex.re.uokhsc.edu>

Fellow QRP-Ls,

Thanks to all who responded to my question about getting my Yaesu FT747 to operate QRP SSB. I tried applying negative voltage to the ALC port, and it worked after a bit of experimenting with some resistors and a 10K potentiometer. Unlike Gary's (N3G0) experience with the IC-735, I found that I had to apply nearly maximum voltage (-9V in this case) to the ALC to get below 5 watts output; additionally, the rate of change in wattage as I went through the "critical voltage" was very fast. To get 5 W required a steady hand. My meter has a 5W max scale (Diamond SX200) and appears to be relatively accurate (I've compared my readings to the calculated values from using a dummy load and RF probe - the meter is accurate at full scale, less so at 0.5 W). I will probably replace the audio taper pot I that used with a 10 turn Pot to make life a little easier. The bottom line is, as soon as I get my antenna up next month, I'll be able to work QRP SSB.

This result brings me to my next question, and it's one that I have a feeling has been discussed before on this list. What is considered QRP SSB? 10 W PEP or 5W PEP? I have the feeling that I've just opened a can

of worms with this question. :)

At any rate, thanks to all, and happy holidays to all.

Mike N5JKY

W.Michael McShan, Ph.D. |\\| _____ Univ. of Oklahoma Health Sciences Center
Res. Asst. Professor .___.. \ / \ / Dept. of Microbiology and Immunology
Tel: (405) 271-1202 _ /__ / \ / 940 S.L. Young Blvd. BMSB 1053
Fax: (405) 271-3117 _/ _/ Oklahoma City, OK 73104
Home: (405) 478-7670 /___/____/QRP-L#300 Email: wmcshan@rex.re.uokhsc.edu
Ham Call: N5JKY

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: W3HMS@aol.com
Subject: [1550] Re: "Four Days in May (c)" Registration Fee Explained
Message-ID: <951218165207_93702635@mail04.mail.aol.com>

Bob....I do't know if I can make it but your fee seems most reasonable to me
for what is beig offered. 7273, John

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: James Prentice WA2MZF <PRENTICE@scanva.canton.edu>
Subject: [1537] Re Ant Tuner
Message-ID: <01HYYGOP01WI0019NI@scanva.canton.edu>

Being a late comer to this subject. I must throw my agreement behind
someone who takes the time to design the circuit. Who really cares
if he makes 20.00 Like a fellow ham and I agree " we have spilled
more beer over a bar than \$20.00! "

The tuner project has a lot of us excited with varied prospects
of a club project and individual project. I have been building
for 34 years plus but also do not have the tools if given the source
code to program a chip. Yes in the past I have programmed some
chips, but for the money they are asking why bother.

nuff said.

73 to all

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: PaulKB8N@aol.com
Subject: [1548] Re: Antennas, SWR, feed-line length, & tuners
Message-ID: <951218164127_57658176@emout05.mail.aol.com>

To Phil and All,

While the SWR will certainly be the same regardless of the length of feedline, if you use a balanced feedline with very low losses, you can tolerate an extremely high SWR and still get a respectable amount of power to the antenna. Coax is another story. By all means, don't lengthen coax, especially light duty (RG-58) coax to achieve a match. You'll lose more in feedline losses than you gain in power output due to the more "friendly" impedance at the transmitter.

Back to balanced feedlines, even they aren't perfect, because you can get some pretty high terminal impedances that can cause very inefficient operation of your balun (if you use one). I generally try to find a length that results in a terminal impedance in the shack of between 150 and 250 ohms, which my 4:1 balun handles very efficiently.

72/3, Paul KB8N

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: KE3FL@delphi.com
Subject: [1551] Re: Antennas, SWR, feed-line length, & tuners
Message-ID: <01HYYKBGQAQA9FMLHI@delphi.com>

Here's more info...

>From Phil - AD5X:

Phil - Changing feedline length and characteristic impedance can change SWR. Example, a 100 ohm impedance antenna fed with a 1/4 wave 72 ohm transmission line has a 1:1 SWR. The 72 ohm line transforms the 100 ohms to 50 ohms, and the same line transforms the 50 ohm transmitter to the 100 ohm antenna. There is no reflected power. The same thing can happen anytime the antenna impedance is different than the transmission line impedance - i.e. you can change the system impedance at the transmitter maybe making it easier to match.

KE3FL/Answer: Yes I will give you that, but what you have here is an antenna matching circuit, a tuner, granted a dedicated tuner or matching circuit at the feed-point to the antenna. This is NOT the same as putting another 20 feet of 50 ohm coax at the end of a run of 100 feet of coax to "transform" the SWR down to 1:1 in your shack!

Sorry about the confusion, there are two Phils here.

I looked over my comments of earlier this morning & found quite a few misspellings. I also thought a bit longer about it and I hope the following is a bit more clear, fun to read for the beginners. Thanks to all of you who responded with similar comments as "Yeeeeahhhh....finally someone who took the time to study and antennas" and "Thanks for posting the great info on SWR feedlines etc."

For those of you who missed the first message, here it is after a bit more thought and editing, tho' still not perfect, I'm sure...

SWR, feed-line length, and Antenna Tuners

I saw some interesting notes on antennas, feed-lines, and matching SWR with different lengths of coax on the QRP-L internet newsgroup. The information was interesting, but wrong. WRONG! The SWR of a system does NOT change when you change the length of the feed-line to the antenna. What changes is your viewing "angle". This WILL change what the rig, or tuner, PERCEIVES as a SWR, but in fact the SWR has NOT changed, if it stunk before it still stinks! AND WORST YET IS THAT THE SAME AMOUNT OF REFLECTED POWER IS STILL GETTING TO YOUR RIG!

Why is this? The SWR (Standing Wave Ratio) is the ratio of the forward (transmitted) energy to the reverse (reflected) energy. This is determined by the impedance mismatch at the FEED-POINT of the feed-line to the antenna. NO AMOUNT OF FIDDLING WITH THE FEED-LINE LENGTH WILL CHANGE THIS FACT! The miss-match (if there is one) can NOT be changed by feed-line length. It can only BE changed by:

1. Changing the type of feed-line, i.e. different impedance feed-line = different miss-match, or SWR. (We don't like to do this cause our rigs are now set for about 50 ohms. So we try to change the antenna feed point to 50 ohms.)
2. Changing the antenna length. This is the correct method to get maximum energy out the antenna anyway.

Interesting question #1: If the natural impedance of a dipole is 75 ohms, when properly tuned for a given wavelength, is it better to tune it for 75 ohms, or for a 1:1 SWR at the feed-point using a 50 ohm SWR meter? In the first case you will get the best antenna transmission because the antenna matches the frequency, but in the latter case you will transfer the maximum energy to the antenna from the feed-line. So, here is a use for knowing the actual impedance of

the antenna, remember that both 33 and 75 ohms give 1.5:1 SWR.

Hint: Do we lose more energy from miss-tuning the antenna to 50 ohms impedance (SWR of 1:1 with 50 ohm feed-line) or from the coax if we tune the antenna to 75 ohms and an SWR of 1.5:1?

To measure the SWR at the feed-point of the antenna you must either take your reading at the feed-point or use a feed-line of length = v_f * multiple of 1/2 the wavelength of interest, where v_f is the velocity factor of the feed-line, this is also known as the "electrical half wavelength." Once you reach an SWR of 1:1 at the feed point by using 50 ohm feed-line and adjusting the antennas impedance to match the feed-line at the desired wavelength, you will find that changing the length of the feed-line (assuming the same type of feed-line) will NOT change the SWR that the rig sees. (After all, if no energy is reflected from an impedance mismatch- i.e. there is NO mismatch- then the SWR can not change.)

REAL LIFE-- Now, while all this physics is interesting, AND CORRECT, what does it mean for operating? When we want to get on the air, and we can't match the antenna to the frequency OR we wish to use one antenna for multiple frequencies (as I do every day) we CAN get on the air by FOOLING the rig into seeing a low SWR on the feed-line AND protecting it from the reflected energy of any mismatch. I know of only ONE way to do both of these and that is by using an antenna tuner. (Whether adjustable or not, non-adjustable tuners are called matching circuits and these are normally installed at the feed point of the antenna.)

The BEST place to measure the SWR is right at the feed point. THINK ABOUT IT, If the feed point is where the mismatch is, then it is the best place to measure it and correct it, THEN the SWR at the feed-line to tuner will be 1:1 and the tuner to antenna will be 1:1. (Most of us do NOT do this because it's hard to do. We match the rig by using a tuner with a 50 ohm impedance input and then we adjust the tuner to the impedance needed to dump all that energy on the feed-line no matter what the present mismatch at the feed-point. THE TUNER PROTECTS OUR TRANSISTOR RIGS FROM REFLECTED ENERGY! (Ever hear of arching? That's when the tuner can no longer handle the high voltages generated by trying to match up the SWR. Still, it's cheaper to replace or fix a blown antenna tuner than a high priced rig. Better still, add another antenna, or use a tuner that can handle the load, or turn down the power.)

If we use low loss feed-line - for the frequency of interest - will we get MOST of our energy out the antenna EVEN with a high SWR. Thus the advantage of 450 twin-lead.

EXAMPLE: (These are fictitious numbers) Assume 100 ft or 450 ohm twin-lead wire with a loss on 0.001/100ft at 7.040 MHz, also assume an antenna mismatch of 50% = starting with 5 watts output, we lose .005 W to the antenna 4.995, 50% of which is reflected, 2.498, again we lose 0.001 = 0.002W, all of which is reflected back & again we lose 0.001 = 0.002, 2.493W to the antenna, 50% of which is reflected, etc... continuing we get: $2.498 + 1.247 + .623 + .311 + .155 + .077 + .039 + .019 + .010 = 4.979$ Watts. (I leave it to you could continue it on, or write a program to see it in action.)

EXAMPLE: Let's use 100 ft of coax with a loss of 3dB at 144 MHz to a mismatched J-pole. We put 5 watts on the line, our HT, we lose 50% (3dB) going to the antenna, so the antenna gets 2.5 W, but the mismatch causes 50% reflection (pretty bad) so the antenna radiates a max. of 1.25 watts, 1.25 is reflected back down the line, 50% of which is lost again as heat so the SWR meter only sees .63 W, which then gets reflected back up the line to the antenna which now sees about .31 W of which only .16 gets out. The total out is about $1.25 + .16 + .02 = 1.43$ W with the third reflection added. RG-8, RG-58, & RG-8X are good for HF, but not very good for VHF & above. Look up the loss factors and do the numbers if you're concerned, I use RG-8X for everything from 160 meters up to 2 meters (where I suffer the loss, but it is still better than the rubber duck from inside the house. ALSO, I use a well matched J-pole at 2 meters!)

So, what does changing the coax length do? (NOTHING!)

We can change the length of the feed-line so that the SWR-meter "sees" a different apparent SWR. What we are doing here is simply changing the angle of viewing. This means that as the energy comes back down the line it will be in/out of phase with the forward energy, when they hit just right we get a low point, a node, and that's what we are looking for by changing the length of the feed-line. Hit a node and the rig "sees" a low SWR & may be fooled into putting out full power. REMEMBER THE REFLECTED ENERGY IS STILL THERE! And for transistor rigs, designed for 50 ohm impedance and well matched antennas of LOW reflected energy, this will still cause you to BLOW OUT YOUR FINALS! This method seemed to work fine for TUBE finals which didn't care about reflected energy, but TRANSISTORS DO! All this method really did was fool the fool in the shack into thinking he had a low SWR because he didn't like to see the truth. The bottom line here for ANY rig is: fool the unit at your own risk. If it doesn't fold back and cause a decrease in output power to protect itself from the high level of reflected energy, YOU WILL BLOW your finals.

My advice is to use a tuner (at the antenna if you can) or in the shack if you must, like I do, and limit your power if the mismatch is high and you hear arching. This will protect your rig and tuner.

DON'T play with feed-line lengths thinking you are changing the SWR or the reflected energy levels! YOU ARE NOT! You are only hiding the truth from yourself and it may backfire with devastating consequences to the finals of your rig.

Interesting question #2: For what wavelength(s) is 100 ft of RG-8X coax the electrical half wavelength? (Hint: Assume a vf of .87 for the coax.)

Interesting question #3: After you find the answer for #2, What does this mean for measuring the SWR for the numerous HAM frequencies you wish to operate on with this system?

Good-luck & 73 de KE3FL/Phil
Ham 3 yrs, Extra 2.5 yrs
BS & MA Physics 19 yrs.
;-)

There are other good points being made. Please post them to the entire group and not to me personally, otherwise the beginners won't get a chance to see, read, and learn. even us OF's need the exersize. Again, keep the info flowing to QRP-L so we all get to see it. I'll respond as needed, or others will. Thanks for all the responses!

73 de KE3FL/Phil
;-)

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: richards@nylink.org
Subject: [1555] Re: Antennas, SWR, feed-ling length, & tuners
Message-ID: <9512190053.AA09218@genesis.nylink.org>

KE3FL wrote:

> we can't match the antenna to the frequency OR we wish to use one
> antenna for multiple frequencies (as I do every day) we CAN get on
> the air by FOOLING the rig into seeing a low SWR on the feed-line AND
> protecting it from the reflected energy of any mismatch. I know of
>

You had me believing Phil, really believing. Then this sentence.
You did sort of clarify this later by saying the op is the only

one fooled. But since Kurt N. Sterba recently had a column explaining this very point, interesting question #4: How, when and why did your rig acquire the ability to respond emotionally? It can only be "fooled" if it has emotions. The antenna tuner really does provide a 50 ohm (or close to it) impedance for the rig. No fooling, trickery, or mirrors involved or necessary.

72 de Rick WZ2T
BA & MA Psychology

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Larry East <LVE1@inel.gov>
Subject: [1518] RE: Argonaut PTO
Message-ID: <9512181639.AA04578@garnet.inel.gov>

>Anyone have experience with a "sluggish" PTO tuning mechanism?
>Sometimes when I turn on the Argo, I must sit there and spin and spin
>and spin the tuning knob for some time to get it to move 10 or 20 kHz.
>After I finally get it moving and take it up and down the band a few
>times it works fine for the rest of the day. Any ideas? Any one know of
>a fix for such a problem?

>

My 509 was slipping also, and I finally cured the problem by cleaning and re-lubricating the reduction drive. Don't recall the details -- had to take the front panel off and not sure what else in order to get to it. Also recall that just oiling it made it worse; think I had to clean it with solvent. You might try this before going the rebuilding route, or at least as an interim solution. Worked for me.

72 and good luck,
Larry W1HUE/7

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Brien Pepperdine <pepperb@gov.on.ca>
Subject: [1523] RE: Argonaut PTO
Message-ID: <Pine.OSF.3.90.951218114607.17896B-100000@govonca2.gov.on.ca>

I had the same problem with my TenTec Omni C, and would think this is the same. When I called TT they suggested I get the rebuild kit, which I did. About 25 dollars. It involves taking the bearings, bearing race and some other parts out, and everything is regreased with the grease they send in

a packet. In my case I do not think that I saw anything worn, per se, the bearings seemed fine and I did not see any worn paths in the races. However, the grease was very solidly dried up, and from what I can see mechanically the three ball bearings HAVE to turn freely in order to then turn the outside reducer that in turn turns the screwed-bar that pulls the magnet in and out of the PTO. Sounds complex, but when you see it it is mechanically simple: shaft movement causes bearings to turn, which transfers the motion to an outer, larger, bearing surface which rotates and turns the PTO shaft. The main culprit to me was the dried up grease, due to that the ball bearings could not turn (locked into the grease) and therefore could not transfer the motion. However I am sure there are cases where the bearing races and/or ball bearings are worn dimensionally enough to not allow motion transfer. Basically that's it; engineering wise that is the essence, though I might have fudged a component or motion somewhere.

TT sends exploded diagram for
disassembly/reassembly. Take time and
remember what came from and goes where, etc. all the usual precautions.

Brien

Toronto

pepperb@gov.on.ca

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: PaulKB8N@aol.com
Subject: [1549] Re: Argonaut PTO
Message-ID: <951218164133_57658313@mail04.mail.aol.com>

I've had similar minor problems with my Omni A, which I've used to make (conservatively) 200,000 contacts over the last fifteen years, without a failure, I might add. What has always worked for me is to run the tuning knob back and forth to its maximum low and high frequency several times (from stop to stop). That spreads the lubricant evenly across the entire shaft and cures my problem every time. Incidentally, my Omni A has been all over the US, Japan, and Europe and continues to put out a nice, clean signal. This ain't a commercial! 72/3, Paul, KB8N

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Paul Harden <pharden@aoc.nrao.edu>
Subject: [1529] Re: Cascade Transistors
Message-ID: <199512181815.LAA28393@zia.aoc.nrao.edu>

Jeff (and others)

The J310 is a fairly general N-FET transistor; I would suspect that the MPF102 would suffice as a suitable replacement in most applications. If a general purpose buffer/amplifier/or switch, you should be OK.

The 2N7000 is a MOSFET device, and bears no resemblance to a 2N2222 or any NPN transistor. (Note: I don't have the Cascade schematics so don't know how it's used). But MOSFET's are known for their very low ON resistance and high OFF resistance, which may be important in this application. I'd stick to using a MOSFET. If used as a switch, then any MOSFET will likely suffice. The designer probably used a MOSFET for a reason ... probably in a circuit where he needs high isolation. If so, I wouldn't mess with mother nature -hi.

Paul NA5N

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [1542] Re: FOX
Message-ID: <199512182028.UAA26869@chuck.dallas.sgi.com>

George, a.k.a. Danny, has too much time on his hands.... :-)
dit dit
--

Chuck Adams (K5FO CP-60) adams@sgi.com
Box 181150, Dallas, TX 75218-8150

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: bmitchel@kodak.com (Brad Mitchell)
Subject: [1543] Re: FOX
Message-ID: <9512182034.AA16456@iiatasun.cba.Kodak.COM>

George, a.k.a. Danny, has too much time on his hands.... :-)
dit dit
--
ditto and then sum!

Where do you work? Can I get a job there?
:-)..
73
Brad WB8YGG

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: "rohre" <rohre@arlut.utexas.edu>
Subject: [1521] RE: Inverted V Advice
Message-ID: <n1392838428.73091@msmailgw1.arlut.utexas.edu>

Steve, and the group:

Consider the legs of the G5 approaching each other ultimately turns it into a vertical, fed at the top. Thus, the cancellation of the radiation from the elements in the directions facing each other is the limiting point on how close the legs can be. How much cancellation can you stand? If the original idea you had; which is correct, is to get as much RADIATING TO IONOSPHERE wire up, then; try to follow the handbook angles for the inverted Vee. Better yet, put the G5 up as originally designed, with the legs horizontal. In fact, I have demonstrated with one of these, that they will still work well with ends only 15 to 20 feet off local earth, but horizontal, and the feedline horizontal in the plane of the wires at right angles to the center. That implies to me that if you had limited horizontal space, you could make it work even in a Zee shape but with the wires horizontal. The center of the antenna could be the center of the slant bar of the Zee. Yes, there would be some cancellation because of the folding back of each of the dipole arms, but it might couple the waves better for your location, without the noise pickup that often happens on a vertically polarized radiator. There seems to be a consensus that an extreme inverted Vee takes on the character of a vertical. This seems to be a little studied area, and you perhaps could break new ground for us and report how a Zee G5RV might work! If you don't worry about pattern, then whatever it takes to get the wire up high and in the clear would do the most good. Good Luck, 72,
Stuart K5KVH
rohre@arlut.utexas.edu

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: burdick@interval.com (Wayne Burdick)
Subject: [1501] Re: Jan QST
Message-ID: <199512180518.VAA19615@interval.interval.com>

Hey, Chuck, thanks for the suggestion:

>18.076MHz be used for CW (the 6 to match the 6 on all but 40M)
>18.158MHz for Phone (transposition of the 8 and 5 from the others)

I'll go with that until a higher authority steps in, or until somebody remembers some other frequencies that we're supposed to be using on 17m.
:)

73 and have a great holiday, y'all...

Wayne
N6KR

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Monte Stark <ku7y@sage.dri.edu>
Subject: [1538] Re: LOGO VOTE
Message-ID: <Pine.SUN.3.90.951218120550.25637F-100000@vortex>

On Mon, 18 Dec 1995, George Gingell wrote:

> Warning, Local police have been
> alerted to watch for outof state Fox Nappers...
>
On NO, not the Fox.....I used to spend a lot of time
each winter trapping those little critters..... cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
...ku7y@sage.dri.edu.....Sun Valley, Nevada....
...QRP-L #17....ARRL....NorCal #330.....NRA LIFE.....

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: N5EM@aol.com
Subject: [1513] Re: Mice and keys
Message-ID: <951218111315_75261860@mail04.mail.aol.com>

In a message dated 95-12-16 11:12:15 EST, you write:

> (Actually, that could be

>an interesting sight - sort of like the "stick" in a jet fighter!)

Hey, what a concept. Get a joy stick. Left and right fire buttons for the paddle ... Forward on the joy stick to go faster, pull back on the stick to slow down. Top missile button could "fire" your canned qso response. Fly your Explorer like a jet :-)

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Paul Harden <pharden@aoc.nrao.edu>
Subject: [1539] Re: Mod for the ARK-40 Transceiver
Message-ID: <199512182016.NAA02953@zia.aoc.nrao.edu>

Jim W8ZR,
I do not have an ARK-40, but your engineering and construction skills are short of heroic! Your mods are true top notch homebrewing spirit. A job well done. I agree ... you should document what you did and get it published. The principals are of general interest beyond just the ARK-40. The engineering of writing the code and the serial interfacing to the LCD display in itself is quite valuable.

Again, great job.
Paul NA5N

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: Larry East <LVE1@inel.gov>
Subject: [1514] RE: Need OHR's Phone Number
Message-ID: <9512181614.AA03997@garnet.inel.gov>

Got it! Thanks to all...

72, Larry W1HUE/7

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: burdick@interval.com (Wayne Burdick)
Subject: [1520] Re: Sierra from Wilderness? YES
Message-ID: <199512181639.IAA25867@interval.interval.com>

Hi Arjen,

>Does anybody have information about when Wilderness will start
>shipping their first run of the Sierra?

This week! Bob Dyer is close to completing the first batch of kits, so he WILL ship in "mid-December," as promised.

Bob and I built and tested the first unit last week, and it is a thing of beauty if we do say so ourselves! :) I'll be pacing the halls like a new Dad, waiting for you guys to get them built...

73,
Wayne
N6KR

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: n2mnn@openix.com (STEVEN PITUCH)
Subject: [1554] Re: Sierra from Wilderness? YES
Message-ID: <199512190038.TAA10646@pantera.openix.com>

Wayne,

When I put my order in for my Wilderness Sierra, I scheduled my last week of vacation for between Christmas and New Year hoping it would get here by then, and I could just build, build, build, all week long!. Do you think I've got a chance of getting by the 26th or 27th? But then again we shouldn't rush Bob. If it takes him a little while longer to put the kit in perfect order, like the NorCal 80a kit I got from him, its well worth it.

Steve Pituch, N2MNN
N2MNN@OPENIX.COM

From qrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: burdick@interval.com (Wayne Burdick)
Subject: [1500] Re: Sierra Help!
Message-ID: <199512180513.VAA19323@interval.interval.com>

Bob, the fact that you get a loud sound in the headphones on transmit tells me that you're mute circuitry may be fried. When you hit the key, three devices get +8VTX and keep the receiver muted:

1. The AGC line (pin 5 of U5) via diodes D2 and D4. This takes out the MC1350.

2. The base of Q1, via R2. This limits the signal into U2 (the RX mixer).
3. The base of Q2, via R26. This limits the signal at the input to the crystal filter, which is necessary because AGC from one poor MC1350 alone cannot kill the huge signal that you get out of U2.

Here's what to do to see which is messed up:

1. First, make sure that you actually see +8VTX at the points I've described above on key-down. In the case of Q1 and Q2, you should see about 0.7V on the base. If you see way more than this, you've killed the part. If you see much less, then the corresponding bias resistors (R2 and R26) may be open, or you're not getting +8VTX to those points (unlikely).
2. If you're still in the dark, MANUALLY short Q1 collector to emitter, and then Q2 collector to emitter. If this kills the loud signal, one or both transistors are kaput.
3. Next try putting 8V directly onto U5 pin 5 using an alligator clip, and see if that cuts the receiver gain. If it doesn't, you may have fried U5 so that AGC doesn't work anymore.

Let me know if any of this helps-

73,
Wayne
N6KR

P.S. -- If all else fails, send it to me after Xmas sometime and I'll take a look at it. I'm like the Maytag guy these days--no rigs to fix!

From xrp-1@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: "N100Q Tom R. @ MR01 18-Dec-1995 1042" <randolph@est.ENET.dec.com>
Subject: [1511] re: Tnx reverse polarity
Message-ID: <9512181600.AA15683@us4rnc.pko.dec.com>

> I accidentally reversed polarity on the power supply and thought I
> had done some damage but...YO...when I opened the box I found the builder
> had installed a fuse and diode protection.

Yah, guess what I did this weekend?

I hooked up a 2m rig to my 7AH gel-cell in an attempt to troubleshoot an odd

feedback problem. One minor detail - I had fused the gel-cell with a 5A fuse, and the rig draws >10A! So I replaced it, no biggie. Except for the fact that I swapped the + and - connectors when I hooked them up again. The next radio I attempted to run off the gel-cell was my 40m receiver... good thing I put the fuse/Zener protection circuit in there! One fuse later, the rx is fine, and I'll be a little more careful about hooking up batteries!

Once more for those who missed it:

```
+12V >-----FUSE---+-----> to the rest of the radio
                        !
                        ---
fuse =                  / \   I used a 5W, 15V Zener here... protects against
2 X rig                ---   polarity reversal and overvoltage. If your rig draws
current draw           !    > 1/2A, use a heftier Zener!
                        GND
```

```
=====
Tom Randolph  N100Q  NE-QRP 419  QRP-L 87  ARRL      randolph@est.enet.dec.com
=====
```

From qrp-l@Lehigh.EDU Mon Dec 18 21:14:44 1995
From: JessQRP@aol.com
Subject: [1547] Re: torrids
Message-ID: <951218163753_93689255@mail06.mail.aol.com>

I am using the Autek RF-1 SWR and L anc C and Z analyzer. It is markested by Autek and IMHO the best meter on the market for the money. You dial in the frequency that the toroid is wound for and push the L button. Like someone else mentioned, you should measure the L or C of the test leads and then subtract that from the measured value. In my case the leads mesure 2 uh and then measured from there. Very accurate.

Best
Jess N0TFI